Fig 1A

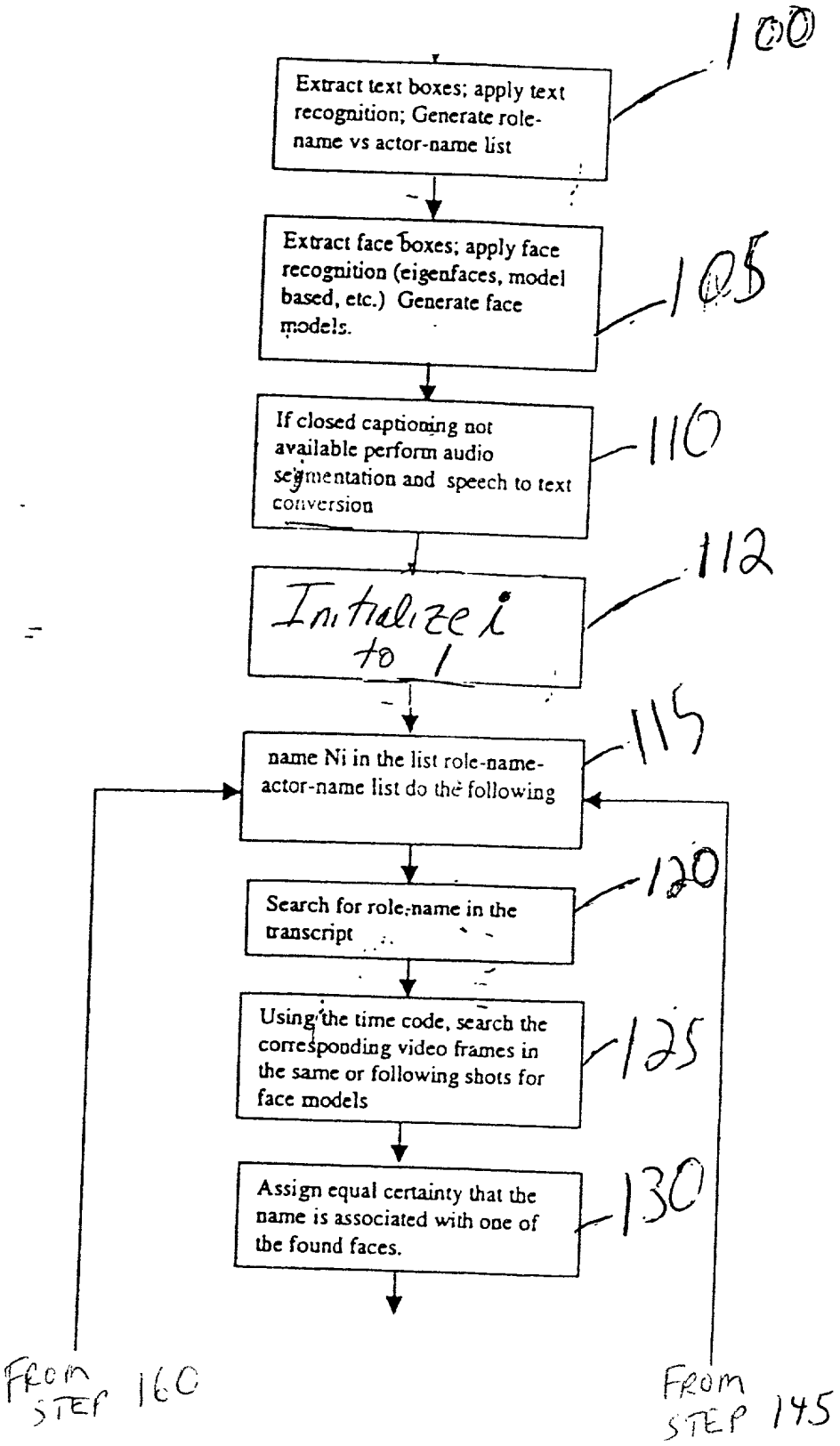

100
Extract text boxes; apply text recognition; Generate role-name vs actor-name list
105
Extract face boxes; apply face recognition (eigenfaces, model based, etc.) Generate face models.
110
If closed captioning not available perform audio segmentation and speech to text conversion
112
Initialize i to 1
115
name Ni in the list role-name-actor-name list do the following
120
Search for role-name in the transcript
125
Using the time code, search the corresponding video frames in the same or following shots for face models
130
Assign equal certainty that the name is associated with one of the found faces.
FROM STEP 160
FROM STEP 145

Fig. 1B

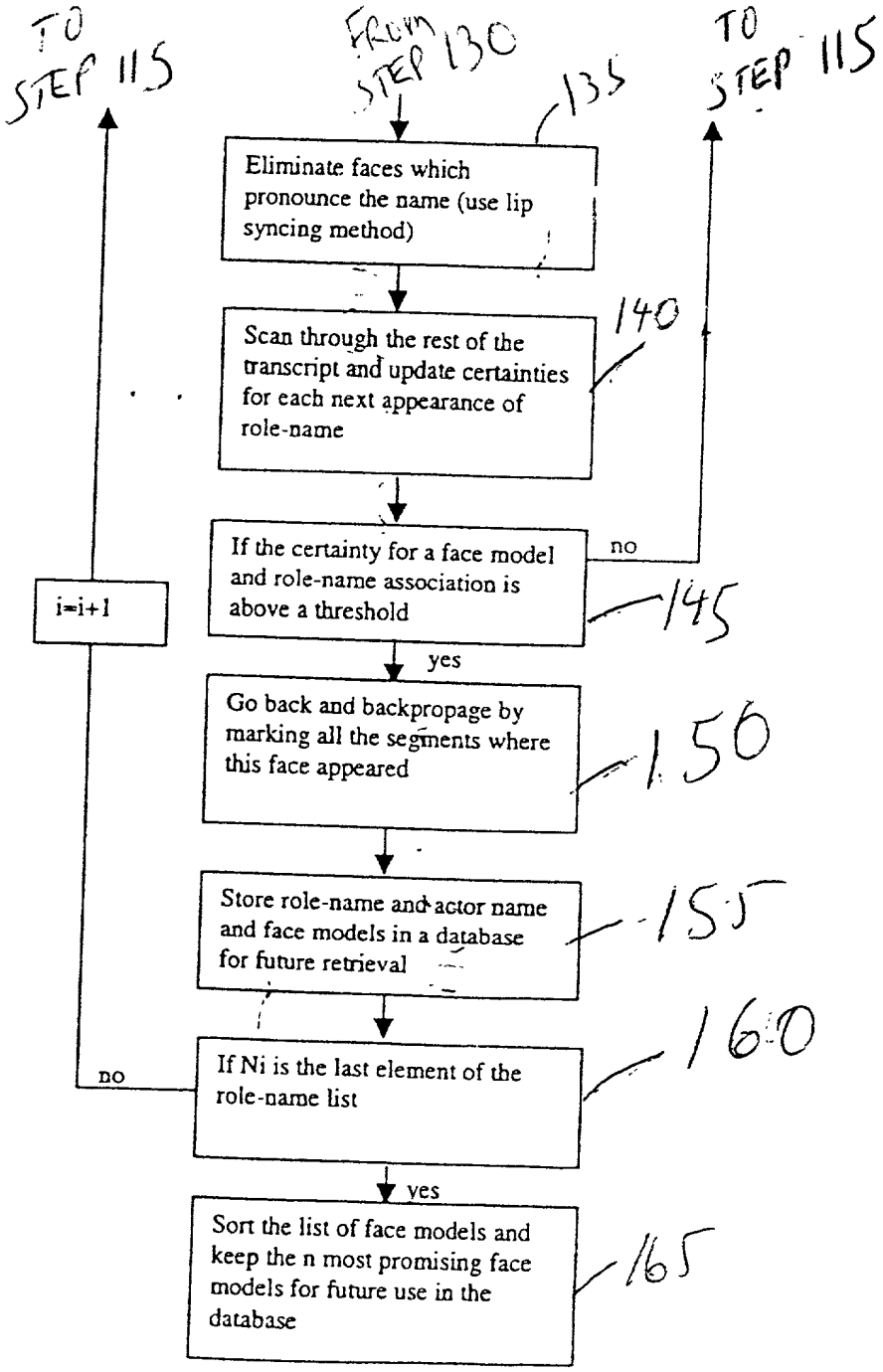
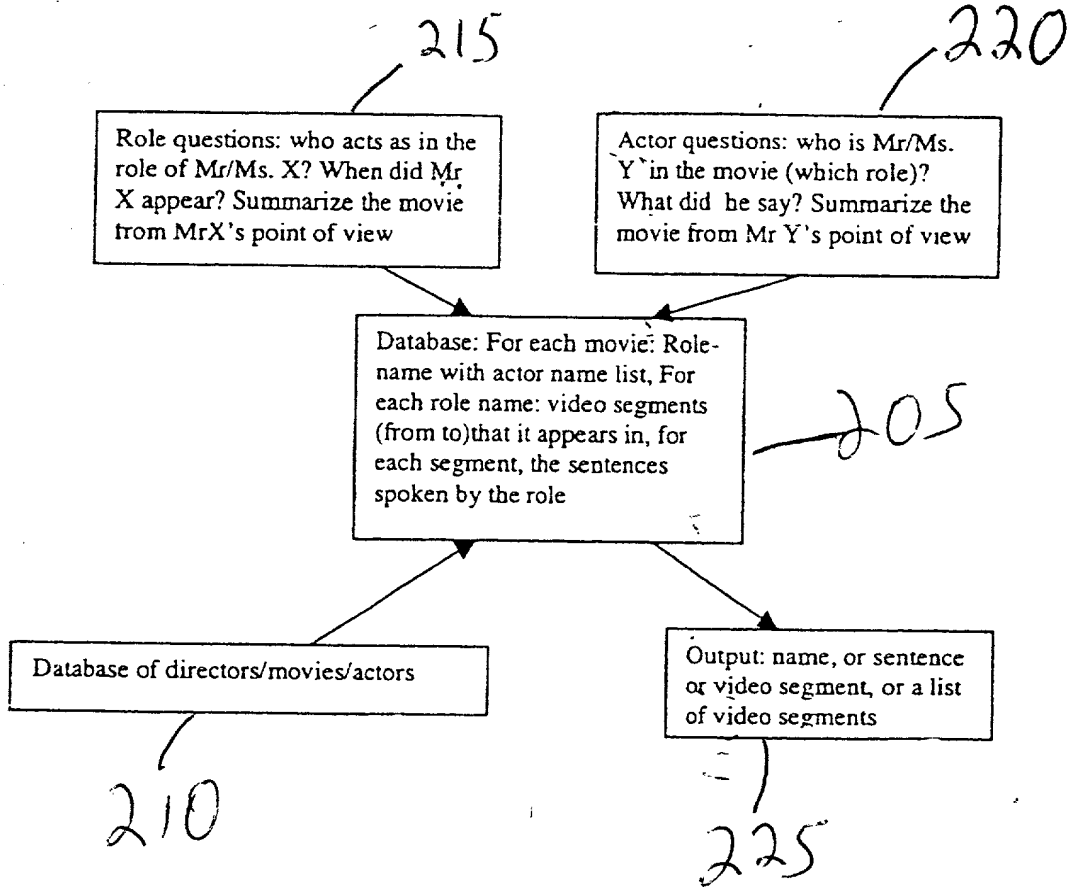

TO STEP 115
FROM STEP 130
135
TO STEP 115
Eliminate faces which pronounce the name (use lip syncing method)
Scan through the rest of the transcript and update certainties for each next appearance of role-name
140
If the certainty for a face model and role-name association is above a threshold
no
145
i=i+1
yes
Go back and backpropage by marking all the segments where this face appeared
150
Store role-name and actor name and face models in a database for future retrieval
155
If Ni is the last element of the role-name list
160
no
yes
Sort the list of face models and keep the n most promising face models for future use in the database
165

Fig. 2


215
220
Role questions: who acts as in the role of Mr/Ms. X? When did Mr X appear? Summarize the movie from MrX's point of view
Actor questions: who is Mr/Ms. Y in the movie (which role)? What did he say? Summarize the movie from Mr Y's point of view
Database: For each movie: Role-name with actor name list, For each role name: video segments (from to)that it appears in, for each segment, the sentences spoken by the role
205
Database of directors/movies/actors
Output: name, or sentence or video segment, or a list of video segments
210
225

TOZ32T" TT86200T

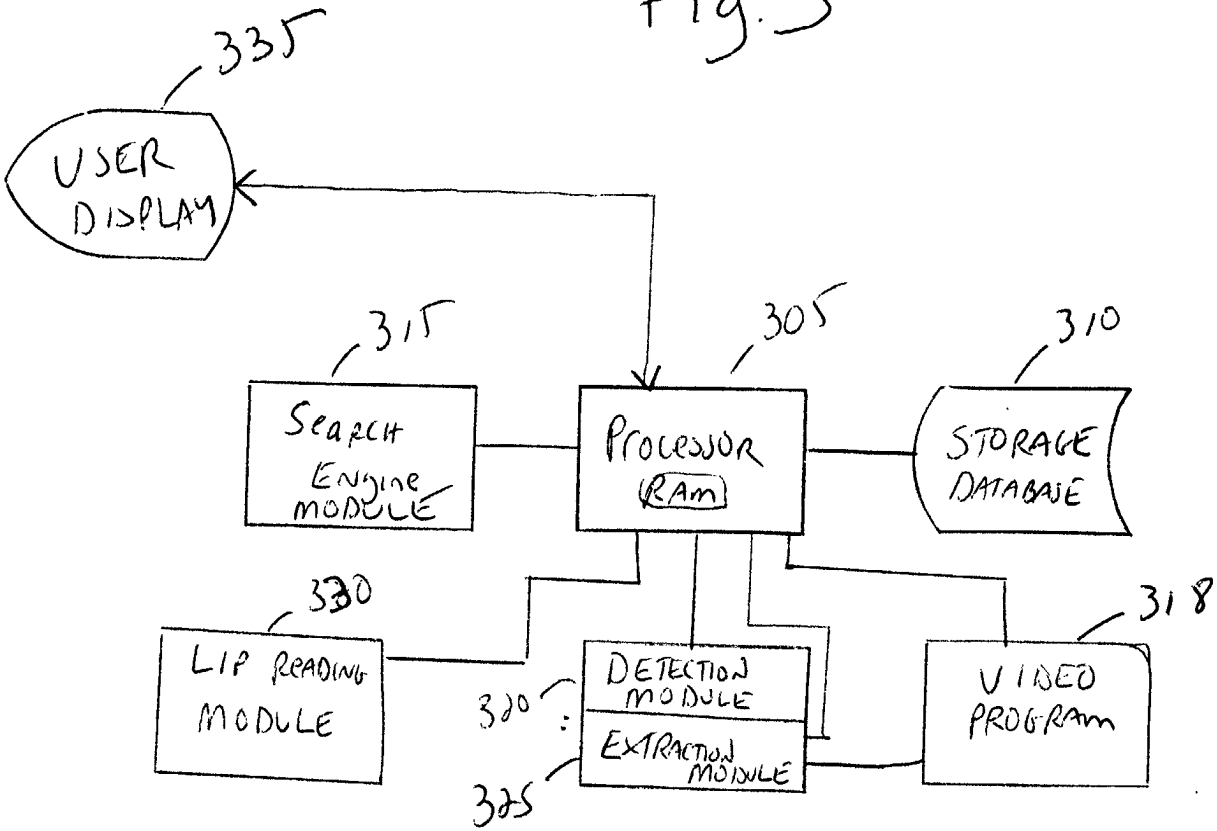



Fig. 3